

UNITED STATES OF AMERICA  
FEDERAL COMMUNICATIONS COMMISSION

File No. BL-6301  
Call Letters WRAD

STANDARD BROADCAST STATION LICENSE

Modified as of November 28, 1956

Subject to the provisions of the Communications Act of 1934, subsequent Acts, and Treaties, and Commission Rules made thereunder, and further subject to conditions set forth in this license, 1/the LICENSEE

PERRY E. GRESHAM AND ALICE C. GRESHAM

is hereby authorized to use and operate the radio transmitting apparatus hereinafter described for the purpose of broad-

casting for the term beginning November 28, 1956, and ending October 1, 1957  
(3 a.m., Eastern Standard Time) (3 a.m., Eastern Standard Time)

The licensee shall use and operate said apparatus only in accordance with the following terms:

1. On a frequency of 1460 kc.
2. With 500 watts power - directional antenna nighttime 

<u>common point</u>	current, <u>3.4</u> amperes
<u>common point</u>	resistance, <u>43.24</u> ohms
<u>antenna</u>	current, <u>4.85</u> amperes
<u>antenna</u>	resistance, <u>212</u> ohms

  
and 5 kilo watts power non directional antenna daytime
3. During the following period or periods of time: Unlimited time  
Average hours of local sunrise and sunset:  
Jan. 7:30 am to 5:30 pm; Feb. 7:15 am to 6:00 pm;  
Mar. 6:30 am to 6:30 pm; Apr. 5:45 am to 7:00 pm;  
May 5:15 am to 7:30 pm; June 5:00 am to 7:45 pm;  
July 5:15 am to 7:45 pm; Aug. 5:30 am to 7:15 pm;  
Sept. 6:00 am to 6:30 pm; Oct. 6:30 am to 5:45 pm;  
Nov. 7:00 am to 5:15 pm; Dec. 7:30 am to 5:00 pm;  
Eastern Standard Time.

4. With the station located at:

Radford, Virginia

5. With the main studio located at:

On U.S. 11, 0.3 mile  
northwest of city limits of  
Radford, Virginia

The apparatus herein authorized to be used and operated is located at:

On U.S. 11, 0.3 mile  
northwest of city limits of  
Radford, Virginia

North Lat. 37 ° 08 ' 35.4 "

West Long. 80 ° 34 ' 38.4 "

and is described as follows:

COLLINS RADIO CO., Type 21-E, Broadcasting Transmitter.

Obstruction marking specifications in accordance with  
paragraphs 1, 3, 11, 21 of FCC Form 715 attached.

The Commission reserves the right during said license period of terminating this license or making effective any changes or modification of this license which may be necessary to comply with any decision of the Commission rendered as a result of any hearing held under the rules of the Commission prior to the commencement of this license period or any decision rendered as a result of any such hearing which has been designated but not held, prior to the commencement of this license period.

This license is issued on the licensee's representation that the statements contained in licensee's application are true and that the undertakings therein contained so far as they are consistent herewith, will be carried out in good faith. The licensee shall, during the term of this license, render such broadcasting service as will serve public interest, convenience, or necessity to the full extent of the privileges herein conferred.

This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequency designated in the license beyond the term hereof, nor in any other manner than authorized herein. Neither the license nor the right granted hereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934. This license is subject to the right of use or control by the Government of the United States conferred by section 606 of the Communications Act of 1934.

1/ This license consists of this page and pages 2, 3 & 4.

Dated this 28th day of November, 1956

FEDERAL COMMUNICATIONS COMMISSION,



af

Mary Jane Morris

Secretary

File No. BL-6301 Call Letters W R A D Date 11-28-56

1. DESCRIPTION OF DIRECTIONAL ANTENNA SYSTEM

DA- N

No. and Type of Elements: Two uniform cross-section, guyed, series-excited vertical steel towers.

Height above Insulators: 200' (107°)

Overall Height: 205'

Spacing and Orientation: Spaced 367' (196°) on a line bearing 7° true.

Non-Directional Antenna: South(1) tower used, with North(2) tower open circuited at base.

Ground System consists of 120-114' to 200' equally spaced buried copper radials plus a 48'x48' copper ground screen about the base of the south tower. 120-85' to 200' equally spaced buried copper radials plus a 24'x24' copper ground screen about the base of the north tower. Radials are bonded to copper strap placed about the boundary of a farmyard midway between the towers.

2. THEORETICAL SPECIFICATIONS

	<u>South Tower(1)</u>	<u>North Tower(2)</u>
Phasing:	0°	48°
Field Ratio:	1.0	0.9

3. OPERATING SPECIFICATIONS

Phase Indication:*	0°	48°
Antenna Base Current Ratio:	1.0	0.956
<u>Phase Monitor Sample</u>		
Current Ratio:	1.0	0.956

\*As indicated by Clarke 108-E phase monitor.

Phase indications and antenna base currents shall be read and entered in the operating log at least once each hour Phase monitor sample currents may be read and logged in lieu of base currents provided base currents are read and logged at least once daily

DESCRIPTION OF AND FIELD INTENSITY AT MONITORING POINT:

Point #1 (Site M.P. #12), direction of  $07^{\circ}$  true North.  
Distance from Array: 1.42 miles. Starting at WRAD's site, proceed north on U.S. Highway #11 0.2 mile to intersection. Turn right at intersection and proceed north 1.21 miles to farm road on right. Turn right (east) on farm road and drive 0.15 mile to gate (entrance to Dent Farm). Proceed through gate 0.35 mile to fork in road. Continue on right, southeast road, 0.1 mile to M.P. Location #12. The monitoring point is situated 30 ft. north of the fifth post west of a gate in the fence line on right (south) side of road. The field intensity measured at this point should not exceed 68.3 mv/m.

Point #2 (Site M.P. #11), direction of  $55^{\circ}$  true North.  
Distance from Array 1.19 miles. Starting at WRAD's site, proceed north on U.S. Highway #11 0.2 mile to intersection. Turn right at intersection and proceed 0.48 mile to intersection of State Road #114. Turn right on State Road #114 and proceed northeast 1.1 miles to intersection on right. Turn right and drive south 0.2 mile to fork in road. Turn on left fork of road and proceed approximately 0.05 mile to farm entrance road on left. M.P. #11 is located in center of black top road, adjacent to farm entrance road. The field intensity measured at this point should not exceed 9.0 mv/m.

Point #3 (Site M.P. #10), direction of  $187^{\circ}$  true North.  
Distance from Array: 1.75 miles. Starting at WRAD's site, proceed left (southeast) on U.S. Highway #11 0.58 mile to the first street in Radford. Turn right (southwest) and continue 1.49 miles to Pendleton Street. Turn left (east) on Pendleton Street and drive 0.8 mile to alley entrance on right side of Pendleton Street. Turn right (south) into alleyway and drive 0.3 mile to far end of abandoned airport. Monitoring point #10 is situated in southwest corner of airport runway approximately 75 feet east of west boundary line and 100 feet north of south boundary line. The monitoring point is marked by a wooden stake. The field intensity measured at this point should not exceed 16.3 mv/m.

Point #4 (Site M.P. #17), direction of  $219^{\circ}$  true North.  
Distance from Array: 4.51 miles. Starting from WRAD's site, turn right (northwest) on U.S. Highway #11 and proceed to Dublin, Virginia approximately 7.0 miles to intersection of State Road #100. Turn left (south) on State Road 100 approximately 0.65 mile to intersection just beyond railroad. Keep left at intersection and proceed 1.2 miles to intersection at Newbern Cemetery. Turn left (east) at intersection and continue approximately 3.5 miles to intersection on left. (This intersection is adjacent to southeastern boundary of Radford Arsenal Reservation). Turn left (north) and continue 0.22 mile to entrance road to Annie Smith Farm on right. Turn right into Smith's farm road 150 feet to gate entrance to south field of Smith's farm. Turn right for 50 feet and then left for 150 feet to Monitoring Point #17, approximately 100 feet south of front door of Smith residence. The monitoring point is located approximately 300 feet east of road and 100 feet south of residence and marked by a wooden stake. The field intensity measured at this point should not exceed 6.5 mv/m.

DESCRIPTION OF AND FIELD INTENSITY AT MONITORING POINTS (continued)

Point #5 (Site M.P.#5), direction of  $298^{\circ}$  true North.  
Distance from Array: 0.70 mile. From WRAD's site, proceed northwest (right) on U.S. Highway #11 for 0.52 mile to State Road #114. Turn right (northeast) on State Road #114 and go 0.12 mile to intersection on left. Turn left and proceed 0.1 mile to entrance to Sunrise Cemetery. Turn right into cemetery and drive 0.4 mile to southwest corner of Sunrise Cemetery. Monitoring Point #5 is located off right side of road and approximately 20 feet east of large tree. The field intensity measured at this point should not exceed 113  $\mu\text{V}/\text{m}$ .